

What is claimed is:

- 1 1. A method of detecting a process failure in a distributed system, the method comprising  
2 steps of:  
3 (1) measuring a first period of time between an instance a last heartbeat was received  
4 from a first process and a later instance in time;  
5 (2) measuring a second period of time between an instance a last heartbeat was received  
6 from a second process and said later instance in time;  
7 (3) comparing said first and second periods of time with a predetermined threshold; and  
8 (4) determining whether a process failure occurred in response to said comparison in step  
9 (3).
- 1 2. The method of claim 1, wherein step (3) further comprises steps of:  
2 calculating a difference between said first period of time and said second period of time;  
3 and  
4 comparing said difference to said predetermined threshold.
- 1 3. The method of claim 2, wherein step (4) further comprises steps of:  
2 detecting a failure of said second process in response to said difference exceeding said  
3 predetermined threshold.
- 1 4. The method of claim 1, wherein said steps are performed as computer-executable  
2 instructions on a computer-readable medium.
- 1 5. The method of claim 1, wherein said distributed system includes one network.
- 1 6. A method of detecting a network failure in a distributed system, the method comprising  
2 steps of:  
3 (1) determining whether a heartbeat is received from at least one process in the  
4 distributed system prior to an expiration of a heartbeat timeout; and

5 (2) detecting a failure of a network in said system in response to not receiving said  
6 heartbeat from said at least one process prior to said expiration of said heartbeat timeout.

1 7. The method of claim 6, wherein said steps are performed as computer-executable  
2 instructions on a computer-readable medium.

1 8. The method of claim 6, wherein said distributed system includes one network.

1 9. A distributed system including a plurality of hosts connected via a network, wherein each  
2 host executes a process in said distributed system, said system comprising:

3 a first host of said plurality of hosts executing a first process; wherein said first is  
4 operable to detect one of failure of a second process executing on second host and failure of said  
5 network based on a period of time to receive a heartbeat transmitted from at least one of said  
6 plurality of hosts.

7 10. The system of claim 9, further comprising:

8 a third host of said plurality of hosts executing a third process; wherein said first host is  
9 operable to measure a first period of time between an instance a last heartbeat was received from  
said third host on said network and a later instance in time and measure a second period of time  
between an instance a last heartbeat was received from said second host and said later instance in  
time;

11 said first host being further operable to compare said first and second periods of time  
12 with a predetermined threshold, and detect a failure of said second process in response to said  
13 comparison.

1 11. The system of claim 10, wherein said first host is further operable to calculate a  
2 difference between said first period of time and said second period of time, and compare said  
3 difference to said predetermined threshold.

1 12. The system of claim 11, wherein said first host is operable to detect said failure of said  
2 second process in response to said difference exceeding said predetermined threshold.

1 13. The system of claim 12, wherein said first process is operable to remove said second  
2 process from a view in response to detecting said failure of said second process.

1 14. The system of claim 9, wherein said first host is operable to determine whether a  
2 heartbeat is received from at least one other host in said system prior to an expiration of a  
3 heartbeat timeout.

1 15. The system of claim 14, wherein said first host is further operable to detect said failure of  
2 said network in response to not receiving a heartbeat from said at least one other host prior to  
3 said expiration of said heartbeat timeout.

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